

Project Recording Sheet***Exponents and Roots*****The Lives of Particles**

Complete the table to show the life spans of the subatomic particles listed without using exponents.

Life Spans of Some Subatomic Particles

Subatomic Particle	Independent Life Span (s)	Life Span in Standard Notation (s)
Electron	Stable	Stable
Proton	Stable	Stable
Neutron	920	920
Mu meson	2.2×10^{-6}	
Pi meson	2.6×10^{-3}	
Sigma baryon	1.5×10^{-10}	
Tau lepton	3.4×10^{-13}	
Upsilon meson	1×10^{-20}	
Quark	Unknown	Unknown

1. List the atomic particles from the table in order from shortest life span to longest.

2. Which atomic particles have independent life spans longer than a finger snap?

3. About how many life spans of a mu meson would be as long as a pi meson?

4. Extension: Make a drawing of an atom including protons, neutrons, and electrons.